

# Clinical observation on the treatment of periarthritis of shoulder by the combination of lijin manipulation and hot compress powder

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**Abstract:** Objective: To observe the clinical effect of Lijin Manipulation combined with Hot Fu Powder in treating periarthritis of shoulder. Methods: Seventy-two patients with periarthritis of shoulder were selected from the orthopaedic outpatient department of the Affiliated Hospital of Shaanxi University of Chinese Medicine, 36 cases in each group. The treatment group was treated with lijin manipulation combined with hot compress powder, while the control group was treated with massage combined with hot compress powder. The course of treatment was 2 weeks. Clinical efficacy, visual analogue scale (VAS) score, Melle score of shoulder function and shoulder motion score were compared before and after treatment, as well as between treatment group and control group in the same group. RESULTS: The clinical efficacy of treatment group was higher than that of control group ( $P < 0.05$ ). After treatment, visual pain score (VAS) and shoulder joint function Melle score in both groups were lower than before treatment ( $P < 0.05$ ), and the decrease in the treatment group was more obvious than that in the control group, the difference was statistically significant ( $P < 0.05$ ). The range of motion of shoulder joint in the treatment group and the control group was higher than before treatment, and the difference was statistically significant ( $P < 0.05$ ). The range of motion in the treatment group was improved more obviously than that in the control group, and the difference was statistically significant ( $P < 0.05$ ). Conclusion: The therapeutic effect of toning tendons manipulation combined with hot compress powder in the treatment of periarthritis of shoulder is obviously better than that of massage combined with hot compress powder. It can better reduce the pain of patients and improve the function and range of motion of shoulder joint, which is worthy of our promotion and application in clinical work.

**Keywords:** Periarthritis of Shoulder, Lijin Manipulation, Heat Dispersion

## 1. Introduction

Periarthritis of shoulder, known as periarthritis of shoulder, is a chronic non-specific inflammation of the human shoulder joint and its surrounding associated ligament, synovial membrane and tendon. Periarthritis of shoulder belongs to the Chinese medicine "jin bi" category, the main symptom is the soft tissue pain around the shoulder joint with activity disorder, the study found that the disease is good in the old people at the age of 50, so it is also known as the "50 shoulder", "old shoulder", generally more women than men. Most periarthritis of shoulder is self-limited disease, but in the process of disease, patients wear and take off clothes, phone calls, lifting functional activities are limited, seriously affect the quality of life of patients. The author applied the combination of Lijin technique and Hot Fu powder to treat periarthritis of shoulder, which can effectively increase the range of motion of shoulder joint, reduce the degree of pain, and the effect is remarkable. The report is as follows.

## 2. Clinical data

### 2.1. General information

A total of 72 patients with periarthritis of shoulder in the orthopedics department and inpatient department of the Affiliated Hospital of Shaanxi University of Chinese Medicine from January 2020 to

June 2020 were selected and randomly divided into treatment group and control group, with 36 patients in each group. The observation group included 16 males and 20 females, 14 patients with left shoulder pain and 22 patients with right shoulder pain. The mean age was  $46 \pm 8.3$  years and the mean course of disease was  $2.3 \pm 1.6$  years. The control group had 14 males and 22 females. There were 15 cases of left shoulder pain and 21 cases of right shoulder pain. The mean age was  $47 \pm 9.1$  years, and the mean course of disease was  $2.6 \pm 1.9$  years. There was no statistical significance in general data between the two groups ( $P > 0.05$ ).

This clinical study was approved by the Ethics Committee of the Affiliated Hospital of Shaanxi University of Chinese Medicine, and all patients voluntarily signed the relevant informed consent before treatment.

## **2.2. Diagnostic criteria**

Referred to the "Standards for Diagnosis and Efficacy of Diseases and Syndromes of Traditional Chinese Medicine" (2012 edition) <sup>[1]</sup> on the diagnostic criteria of peri-arthritis of shoulder. (1) Chronic strain, injury of muscles and bones, and deficiency of qi and blood are caused by cold and dampness; (2) pain and discomfort around the shoulder joint, light day and heavy night, often caused by weather changes and fatigue, shoulder joint activity dysfunction; (3) Shoulder muscle atrophy, tenderness in front, back and lateral shoulder, obvious abduction limitation, typical "shoulder-carrying" phenomenon; (4) DR of shoulder joint was negative. Osteoporosis and deltoid atrophy were observed in patients with a long course of disease.

## **2.3. Inclusion criteria**

(1) Meet the diagnostic criteria for peri-arthritis of shoulder; (2) aged between 18 and 70; (3) Be aware of this study and sign the consent <sup>[2]</sup>; (4) Voluntarily sign the informed consent for treatment, the subjects have good compliance, can complete all the treatment and get effective follow-up, and the approval of the ethics committee of the hospital.

## **2.4. Exclusion criteria**

(1) A history of shoulder trauma; (2) Complicated tumor system diseases; (3) Patients with abnormal liver and kidney function; (4) have blood coagulation system diseases; (5) patients who cannot tolerate massage and tendon manipulation; (6) patients with allergy to external application of hot compress powder; (7) Patients suffering from mental diseases.

## **3. Treatment methods**

### **3.1. The treatment group**

#### **3.1.1. reinforcement technique**

(1) the patient to sitting and performer in in biceps long hair, short head, shoulder tendons under the supraspinatus tendon, okada and deltoid leading edge and trailing edge check point and looking for a pressure point, combining with patients with limb restricted movement direction, to locate the affected muscle group, sometimes limited limb direction with the pressure point, as well as the pressure point of muscles and cause dial limited limb muscles. (2) Find the starting point and final attachment point of the locator muscle group table respectively. Biceps brachii tendon is located in the superficial layer of the upper arm, with long and short ends, the long head starts from the pelvis nodules of the scapulae, the short head starts from the coracoid process of the scapulae, and the long and short ends converge to the muscle abdomen. In general, peri-arthritis of shoulder is usually found in the long head. The deltoid muscle starts from the acroma and scapulae outside the clavicle and ends at the tuberosity of the deltoid muscle of the humerus. The deltoid muscle is located in the superficial position. Generally, it carries out bands at the pain points to stretch the tendons and reduce adhesion. The supraspinatus muscle arises from the supraspinatus fossa of the scapula and terminates at the upper part of the greater tuberosity of the humerus. Because the tendon is located deep, we perform surgery at the midpoint of the starting and ending point, The supraspinatus tendon starts in the supraspinatus fossa and terminates on the greater tuberosity of the humerus. The operation is at the midpoint. Once every 3 days for 2 weeks.

### 3.1.2. External application of traditional Chinese medicine

Efficacy of external application: relieving tendons and dredging collaterals, dehumidifying and relieving pain, promoting blood circulation and removing blood stasis, warming meridians and dispersing cold. Shenjin grass, Tougu grass, Phellodendron chinensis 20g each, Asarum 3g each, Peach kernel, Red Flower, Papaya, Lusutong, Puerarin 15g each, Liu Zhihu 10g each, Atractylodes atractylodes 12g each. Put the medicine in a cloth bag, soak 100ml vinegar for each medicine for 5 minutes, and put it in an electric steaming pot for 30 minutes. Put the medicine bag on the sore area around the shoulder, twice a day, for 30 minutes each time. The treatment lasted for 2 weeks.

### 3.2. The control group

#### 3.2.1. Massage manipulation

(1) massage techniques include point, kneading, pressing, taking, drawing, shaking, rubbing, etc.; Ask the patient to take the sitting position, the affected limbs to relax, rub the shoulder well, shoulder zhen, Quchi, Hegu, lack of basin, Tianzong and other acupoints, respectively in the front, back and side of the affected limbs to rub, rub, take and other techniques; After the performer hold with his left hand side shoulder, right hand hold hand, pull out, jitter, technique such as rotation, then click the shoulders well, chien cheng, li 11, or valley, basin, such as days of acupoints, passive movement to help patients with shoulder joint, including former, rotation, flexion and adduction, outreach, after stretching, etc., gradually increase the intensity of movement and, with patients able to tolerate advisable. Finally, the four sides of the affected limb were rubbed and patted to relieve tendons and collaterals, promote blood circulation and relieve pain, smooth joints and release adhesions<sup>[3]</sup>. 30 min/ time, 1 time /d; 7 d was a course of treatment, and there were 2 courses of treatment in total. (2) The method of Chinese medicine hot compress powder is the same as before.

### 3.3. Observation indexes and methods

#### 3.3.1. Curative effect criteria

After treatment, the pain symptoms of the shoulder joint and its surrounding area disappeared and the range of motion was normal, which was called cure. After treatment, shoulder pain disappeared, shoulder range of motion to a great improvement, but still can not reach the normal range, known as significant effect. The pain and motion of the shoulder improved, but the motion still affected daily life and was called effective. Failure to improve the standard of pain and range of activity or deterioration is called ineffective<sup>[4]</sup>.

#### 3.3.2. Visual analogue scale VAS score [5]

Ranged from 1-10, and the higher the score, the more severe the pain. Melle score of shoulder function<sup>[6]</sup> Melle score of shoulder function was used to evaluate abduction, external rotation, adduction, flexion and extension of shoulder. The larger the range of motion, the better the function.

### 3.4. Statistical treatment

Data were processed by SPSS 20.0 software. Measurement data and enumeration data were represented as mean  $\pm$  standard deviation respectively. T and chi-square tests showed that  $P < 0.05$  was statistically significant.

## 4. Results

### 4.1. Clinical efficacy

Comparison of clinical efficacy between the two groups showed that the treatment group was significantly higher than the control group, and the difference was statistically significant ( $P < 0.05$ ).

Table 1: Comparison of clinical efficacy between the two groups.

Group	N	Cure	Excellent	Efficacious	Invalid	Effective rate	P
Treatment	36	26	4	4	2	94.4%	<0.05
Control	36	21	4	3	8	77.8%	

Note: N: number of cases.

#### 4.2. Visual pain score (VAS) and Melle score

Visual pain score (VAS) of the two groups after treatment was significantly lower than that before treatment, and that of the treatment group was significantly lower than that of the control group, with statistical significance ( $P < 0.05$ ). Melle score of shoulder joint function in both groups was significantly lower than that before treatment, with statistical significance ( $P < 0.05$ ). The scores in the treatment group were significantly lower than those in the control group, and the difference was statistically significant ( $P < 0.05$ ).

Table 2: Comparison of VAS score of shoulder pain and Melle score of shoulder joint function before and after treatment between the two groups ( $x \pm s$ ).

Group	N	VAS score		Melle score	
		Prior	Post	Prior	Post
Treatment	36	5.96 $\pm$ 0.87 <sup>a</sup>	1.89 $\pm$ 0.61 <sup>a,*</sup>	10.35 $\pm$ 2.13 <sup>b</sup>	4.75 $\pm$ 1.83 <sup>b,**</sup>
Control	36	5.77 $\pm$ 0.69 <sup>a</sup>	2.46 $\pm$ 0.93 <sup>a</sup>	10.49 $\pm$ 2.44 <sup>b</sup>	6.33 $\pm$ 2.06 <sup>b,*</sup>

Note: Different lowercase letters indicate significant differences between groups ( $P < 0.05$ ), and \* indicates significant differences within groups (before and after treatment) (\*  $P < 0.05$ , \*\*  $P < 0.01$ , \*\*\*  $P < 0.001$ ).

#### 4.3. The range of motion and activity

The range of motion of shoulder joint in the two groups was significantly higher than that before treatment, with statistical significance ( $P < 0.05$ ); the range of activity in the treatment group was significantly larger than that in the control group, and the difference was statistically significant ( $P < 0.05$ ).

Table 3: Comparison of range of motion of shoulder before and after treatment between the two groups ( $x \pm s$ )

Group	N	Abduction		Adduction		Extorsion		Anteflexion		Rear Protraction	
		Prior	Post	Prior	Post	Prior	Post	Prior	Post	Prior	Post
Treatment	36	82.3 $\pm$ 9.6 <sup>a</sup>	140.2 $\pm$ 7.6 <sup>a*</sup>	25.2 $\pm$ 3.9 <sup>a</sup>	39.4 $\pm$ 2.8 <sup>a,**</sup>	51.9 $\pm$ 6.7 <sup>a</sup>	76.3 $\pm$ 9.4 <sup>a,**</sup>	81.6 $\pm$ 9.4 <sup>a</sup>	139.2 $\pm$ 16.5 <sup>a,**</sup>	22.6 $\pm$ 3.8 <sup>a</sup>	46.8 $\pm$ 6.1 <sup>a,**</sup>
Control	36	81.5 $\pm$ 9.4 <sup>a</sup>	129.3 $\pm$ 8.4 <sup>a*</sup>	26.7 $\pm$ 4.2 <sup>a</sup>	34.5 $\pm$ 3.4 <sup>a,*</sup>	50.8 $\pm$ 7.0 <sup>a</sup>	69.1 $\pm$ 9.9 <sup>a,*</sup>	82.1 $\pm$ 8.9 <sup>a</sup>	129.8 $\pm$ 15.3 <sup>a,*</sup>	21.9 $\pm$ 3.6 <sup>a</sup>	40.7 $\pm$ 5.4 <sup>a,**</sup>

Note: Different lowercase letters indicate significant differences between groups ( $P < 0.05$ ), and \* indicates significant differences within groups (before and after treatment) (\*  $P < 0.05$ , \*\*  $P < 0.01$ , \*\*\*  $P < 0.001$ ).

## 5. Conclusions

We hope you find the information in this template useful in the preparation of your manuscript. With the speeding up of the pace of life, the life pressure increase, periarthritis of shoulder is more and more tend to be younger patients, periarthritis of shoulder about accounted for about 40% of the shoulder disease [7], in the acute phase is more pain as the main symptoms, when around the middle of muscle contraction strength decline and slippery bursa in adhesion, etc., with limited activity as the main symptoms associated with mild pain. The onset of the disease is relatively slow, the course of the disease is longer, the general course of the disease can be maintained 1~2 years. Periarthritis of shoulder belongs to the category of Chinese medicine "jin bi". Bi disease is described [8] in "miscellaneous diseases wide yao Bi people closed also, blocked appearance. It is like a sign of cloth sticking to the muscle, and the bones and muscles will not melt. The shoulder joint suffers from cold and dampness and strain for a long time. In addition, people in their fifties suffer from deficiency of Qi and blood, loss of liver and kidney, combination of internal and external pathogenic factors, obstruction of muscles and arteries, loss of nourishment of muscles and veins, poor movement of Qi and blood, poor movement of Qi and blood in Yingqi and blood, and pain [9]. Modern medical medicine for the etiology of periarthritis of shoulder cases you mechanism is unknown, mainly believed to be related to the anatomy of the shoulder joint, degenerative changes of surrounding soft tissues, trauma, endocrine disorders, restriction of protective

activities after fracture and other reasons. The pathological mechanism is inflammatory changes such as hyperemia, edema, exudation and thickening of the soft tissue of the joint glenoid, and inflammation stimulates the spasm and contraction of muscles, tendons and ligaments. Modern medical treatment is symptomatic treatment, many methods with nonsteroidal anti-inflammatory drugs, extracorporeal shock wave treatment, microwave, infrared therapy, etc., while it is possible to alleviate the pain, but because of the patients with periarthritis of shoulder soft tissue elasticity decreased, joint capsule contracture, tendon contracture, and so on, easy to relapse, and the effect of treatment of severe symptoms of periarthritis of shoulder ideal<sup>[2]</sup>. Traditional medical treatment methods include acupuncture and moxibustion, massage, acupotomy, internal and external application of traditional Chinese medicine, physical therapy, wax therapy, etc. However, single use has certain limitations. In order to seek a treatment method that is reassuring to patients, with appropriate price, safe operation and good efficacy, we want to find the most suitable method for the needs of patients. Acupuncture does not improve mobility very well. Single use of hot compress can promote local blood circulation and the effect of pain relief, promote metabolism, but not the clinical expectations. Massage can relax tendons and activate collaterals and improve blood circulation, but there is a lack of specific and normative evaluation of massage.

The tendon technique is a special technique for the treatment of tendon injuries. The tendon has different pathological states, "turning and clutch, relaxation and clonus", and the tendon injury will use different techniques according to different signs. It can lift and pull the spasmodic tendons, relieve spasmodic pain, improve circulation, separate adhesion and reduce inflammation and swelling, thus relieving local muscle spasmodic, promoting metabolism, accelerating elasticity recovery of soft tissue and relieving pain. The treatment of periarthritis of shoulder has an immediate effect. In addition, the anatomical positioning is simple and the operation is simple and easy. The application of Professor Zhu Changgeng's experience prescription of hot compress powder has significant curative effect. Shenjin cao and Transjin cao have the effect of relaxing tendons and activating collaterals, promoting blood circulation and removing blood stasis, removing wind and dehumidifying. Phornidae has the effect of clearing away heat and dampness, removing fire and detoxification, and has a good effect in treating local aseptic inflammation. Asarum with dryness dispels the wind effect, liu send nu can not only through the meridians and can relieve pain. Peach kernel and safflower have the function of promoting blood circulation and removing blood stasis to change the local blood circulation, increase the local supply of nutrients to atrophy muscles and promote recovery, Papaya and Pasutong can relax tendons and activate collaterals, and Atractylodes can dispel wind, promote the absorption of local inflammation and relieve pain. Cassia twig and pueraria root have perspiration muscle, which can promote muscle toughness and increase activity on the one hand, and relax tendons and activate collaterals on the other hand. For those with severe pain, the patients were given Cucumis spatholobus, Cucumis spatholobus, and Yuanhu, etc. For those with severe blood stasis, the patients were given Cucumis spatholobus, frankincense, and myrrh etc.

In summary, the use of massage and toning techniques can significantly reduce the VAS and MELLE scores, relieve pain, significantly increase the range of motion of shoulder joint, which is conducive to increasing the range of motion. This treatment whether the treatment of early, middle, late periarthritis of shoulder has obvious curative effect. Moreover, the effect is more obvious than the single use of massage combined with Bi Shenjin Decoction, indicating that the toning tendon manipulation has a significant effect in the treatment of diseases. The use of this program is less damage, simple operation, easy to be accepted by patients and other advantages, worthy of clinical promotion and application.

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